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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,501	06/03/2005	Jorg Heuer	112740-1080	3486
29177 7590 10/16/2008 BELF., BOYD & LLOYD, LLP P.O. BOX 1135 CHICAGO, IL 60690				
EXAMINER				
TSUL, WILSON W				
ART UNIT		PAPER NUMBER		
2178				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/537,501

Applicant(s)

HEUER ET AL.

Examiner

WILSON TSUI

Art Unit

2178

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This final action is in response to the amendment filed: 07/03/08.
2. Claims 1-16 are cancelled. Claims 17, 23, 29, and 30 are amended. Claims 17, 23, 29, and 30 are independent claims. Claims 17-30 are pending.
3. Claims 17-30 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Wan, further view of Hunter.

Priority

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) with respect to PCT/EP03/13511 filed on 01/12/2003, foreign priority based on application filed in Germany on 12/03/2002, and foreign priority based on application filed in Germany on 08/29/2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17-30 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Wan (US Application: US 2004/0028049 A1, published: Feb. 12, 2004, filed: Oct. 5, 2001), further view of Hunter ("An Overview of the MPEG-7 Description Definition Language (DDL)", published: June, 2001, pages 765-772).

With regards to claim 17, Wan teaches a method for encoding an XML-based document including contents according to an XML schema language definition (paragraph 0021), said method comprising the steps of:

- *Generating a coded binary representation of the document* (whereas, a binary representation of the document is implemented through encoding) *by assigning binary structure codes to the contents of the document via code tables* (paragraphs 0011, 0017, 0044: whereas, a structure stream is encoded with code tables.)
- *Assigning structure code to textual content of the element datatype* (paragraphs 0049, 0050, 0054: whereas structure codes are assigned to data types. Additionally, structure codes are assigned to textual content of the element, as shown in Fig. 7).
- *... to allow the textual content to be filtered out from the binary representation so that subsequent decoding does not have to decode the entire binary representation* (paragraphs 0103, and 110-112: whereas, text content can be filtered out from the binary representation via offsets and thus the entire binary representation does not have to be decoded)

However, Wan does not expressly teach the datatype is *of a complex type data type with a mixed content model, ... a complex data type with a mixed content model comprises a parent node and in a first hierarchical plane below said parent node a*

plurality of element nodes; the element of the complex data type with a mixed content model as an element node in the first hierarchical plane.

Hunter teaches the datatypes are *of a complex type data type with a mixed content model*, such that *a complex data type with a mixed content model comprises a parent node and in a first hierarchical plane below said parent node a plurality of element nodes; the element of the complex data type with a mixed content model as an element node in the first hierarchical plane* (page 767, 768, S768: *whereas, datatypes include complex type data with a mixed content model. The parent node such as 'OrganizationType' is at a first node/top-most node/element (top hierarchical plane) in a hierarchical XML tree, the element nodes (such as OrgName, or ContactPerson) are nested below the 'OrganizationType'.*

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Wan's binary encoding of datatypes within a hierarchical structure; to have further included the complex datatypes for describing an MPEG stream, as taught by Hunter. The combination of Wan and Hunter would have allowed Wan to have "allowed children elements in their (complex types) content and may carry attributes" (page 767, S767: Hunter).

With regards to claim 18, which depends on claim 17, Wan and Hunter teach *wherein the assignment of the structure codes to the textual contents of a complex type data type with mixed content model*, as similarly explained in the rejection for claim 17, and is rejected under similar rationale. Furthermore, Wan teaches the assignment of

structure codes *is effected exclusively via OperandTBC coding tables* (page 13: whereas, an ID code table is used to store hierarchical/tree data for a set of nodes).

With regards to claim 19, which depends on claim 17, Wan and Hunter teach *wherein the textual contents of a complex type data type with the mixed content model*, as similarly explained in the rejection for claim 17, and is rejected under the same rationale. Additionally, Wan teaches the textual contents are further *assigned position codes* (paragraph 0109: whereas node locators are used for assigning position codes).

With regards to claim 20, which depends on claim 19, Wan teaches *wherein single element position codes and/or multiple element position codes are used in the assignment of the position codes* (paragraph 0102, 0109: whereas, one or more node locators are used for assigning position codes).

With regards to claim 21, which depends on claim 19, Wan teaches *wherein the position codes are encoded using codes of variable length* (paragraph 0104: whereas each node/node-locator includes a variable size field).

With regards to claim 22, which depends on claim 21, Wan teaches *wherein the position codes are encoded using a code vluimsbf5* (page 11: whereas, as declared in the 'size_in_byte' field of a bit stream, a variable length unsigned integer, and most significant bit(s)-first, format is used as part of the encoding process).

With regards to claim 23, Wan teaches *a method for decoding a binary representation of an XML-based document* (paragraph 0075), comprising:

Receiving a coded binary representation of the document by assigning binary structure codes to the contents of the document via code tables: (paragraphs 0011, 0017, 0044: whereas, a structure stream is encoded and then decoded with code tables);

Assigning structure codes to textual content of the element datatype (paragraphs 0049, 0050, 0054: whereas structure codes are assigned to data types. Additionally, structure codes are assigned to textual content as shown in Fig. 7).

Converting the assigned structure codes into the textual contents of the XML-based document that were assigned to the structure codes (paragraph 0075: whereas, a decoder implements the conversion process).

... to allow the textual content to be filtered out from the binary representation so that subsequent decoding does not have to decode the entire binary representation (paragraphs 0103, and 110-112: whereas, text content can be filtered out from the binary representation via offsets and thus the entire binary representation does not have to be decoded)

However, Wan does not expressly teach the datatypes are *of a complex type data type with a mixed content model*, ... such that *a complex data type with a mixed content model comprises a parent node and in a first hierarchical plane below said parent node a plurality of element nodes; the element of the complex data type with a mixed content model as an element node in the first hierarchical plane.*

Hunter teaches the datatypes are *of a complex type data type with a mixed content model* such that *a complex data type with a mixed content model comprises a parent node and in a first hierarchical plane below said parent node a plurality of element nodes; the element of the complex data type with a mixed content model as an element node in the first hierarchical plane* (page 768, S768: whereas, datatypes include complex type data with a mixed content model. The parent node such as 'OrganizationType' is at a first node/top-most node/element (top hierarchical plane) in a hierarchical XML tree, the element nodes (such as OrgName, or ContactPerson) are nested below the 'OrganizationType').

It would have been obvious to one of the ordinary skill in the art at the time of the invention to have modified Wan's binary encoding of datatypes within a hierarchical structure; to have further included the complex datatypes for describing an MPEG stream, as taught by Hunter. The combination of Wan and Hunter would have allowed Wan to have "allowed children elements in their (complex types) content and may carry attributes" (page 767, S767: Hunter).

With regards to claim 24, which depends on claim 23, Wan teaches *wherein the assignment is effected by means of structure codes (SBC) via OperandTBC coding tables* (page 13: whereas, an ID code table is used to store hierarchical/tree data for a set of nodes), and also paragraph 0075, whereas a complementary decoder process is implemented.

With regards to claim 25, which depends on claim 23, Wan and Hunter teaches *wherein binary representations of textual contents of a “complex type” data type with the “mixed” content model*, as similarly explained in the rejection for claim 23, and is rejected under similar rationale. Additionally Wan teaches *addressed by means of “position codes” are further converted into textual contents at the assigned position* (paragraphs 0109-0112: *whereas, reconstruction/decoding takes place by converting into textual contents at the assigned position*).

With regards to claim 26, which depends claim 25, Wan teaches *wherein the “position codes” comprise “single element position codes” (SPC) and/or “multiple element position codes” (MPC)* (paragraphs 0102, 0109 : *whereas, one or more node locators are used for position codes*).

With regards to claim 27, which depends on claim 25, Wan teaches *wherein the “position codes” are encoded using codes of variable length* (paragraph 0104: *whereas each node/node-locator includes a variable size field*)

With regards to claim 28, which depends on claim 27, Wan teaches *wherein the “position codes” are encoded using a code vluimsbf5* (page 11: *whereas, as declared in the ‘size_in_byte’ field of a bit stream, a variable length unsigned integer, and most significant bit(s)-first, format is used as part of the encoding process*).

With regards to claim 29, for a device performing a method similar to the method of claim 17, is rejected under similar rationale.

With regards to claim 30, for a device performing a method similar to the method of claim 23, is rejected under similar rationale.

Response to Arguments

6. Applicant's arguments filed 07/03/08 have been fully considered but they are not persuasive.
7. With regards to claim 17, the applicant first argues that "however, these mixed elements require a complex decoding due to their tree structure, [and] the invention defined in the independent claims provides for an enhanced structure that puts textual content as an element within the first hierarchical plane of a mixed element". However, the examiner respectfully points out, that in the claim language structure codes are assigned to textual content of the element. Thus, the applicant is arguing a different limitation than what is present/required in the claim language. Should the applicant require "textual content as an element", then the examiner recommends the applicant includes this limitation in the claim language.
8. The applicant secondly argues that "Combining Wan and Hunter would not provide any advantages over the teaching of Hunter itself because Hunter merely discloses the basic structure of complex types in an XML Schema.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Wan encourages and improves upon encoding schemes that support the streaming of XML documents, by implementing methods such as locating elements more efficiently (Wan, paragraph 0010). Thus, Wan encourages the use of locating elements, and Hunter provides for additional elements, such as complex types (as explained in the above rejection), to be used by Wan for the purpose of improving encoding schemes.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILSON TSUI whose telephone number is (571)272-7596. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner, Art Unit 2178

/Wilson Tsui/
Patent Examiner
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October 12, 2008